

Cancer Center of Santa Barbara Tree Protection Plan

**Prepared for:
Brad Hess
Assistant Administrator
Santa Barbara Cancer Center
540 West Pueblo Street
Santa Barbara, California 93105**

**Submitted by:
Duke McPherson
Duke McPherson, Arborist
P.O. Box 5667
Santa Barbara, California 93150**

April 12, 2009

Table of Contents

Summary.....	1-2
Introduction.....	3
Background.....	3
Assignment.....	3
Proposed Site Changes.....	3
Evaluation of Potential Tree Impacts.....	4-5
Potential Tree Impact, Discussion and Recommendations.....	5-6
Mitigation Recommendations.....	7
Conclusions.....	7
Tree Protection Measures.....	8
Appendix A.....	9
Inventory of Native Tree Species.....	9
Inventory of Non-Native Tree Species.....	11
Appendix B	
Site Plan and Key.....	In pocket of report cover
References.....	12
Report Credit.....	13

Summary

This report studies the proposed construction of a new facility, replacing the old one, on the property at 540 West Pueblo Street, Santa Barbara, California in terms of the possible impact it may have on native and highly prized non-native trees. The health of thirteen Coast Live Oak trees, *Quercus agrifolia* and two Torrey Pines, *Pinus torreyana*, were found to be potentially influenced by a multitude of activities associated with construction summarized in the following table:

Tree Number	Name	Construction Activity	Impact	Mitigation Suggestion
1	<i>Quercus agrifolia</i> (QA)	Nearby building excavation	Possible root cutting	Manually dig all ditches within Critical Root Zone (CRZ). Arborist to be on hand.
1	QA	Pathway and driveway goes through CRZ	Fill soil could inhibit some root aeration	Rima brand of layered sub-base to provide aeration
2	QA	Same as with # 1	Same as above	Same as above
3	Bay tree (<i>Umbellularia californica</i>)	Same as with # 1	Same as above	Same as above
4	QA	Building excavation and house demo to occur within its CRZ	Same as above. Demolition may affect this tree.	Same as above. Arborist to be present to supervise excavation and demo work.
5	QA	House demo to occur within its CRZ	Demolition may affect this tree. (It is very close to the present foundation).	Arborist to be present to supervise demo work.
9-11	<i>Pinus Torreyana</i> (Torrey Pine)	Soil over filling 12", curbing placement near trunk.	Possible interference with aeration? Root cutting?	Roughen grade soil after lifting pavement. Use soil from site. Not deep enough to affect aeration. No ditching for curbing. Arborist to confirm this on site.
10, 12, 14	QA	Soil over filling 12", curbing placement near trunk.	Possible interference with aeration? Root cutting?	Roughen grade soil after lifting pavement. Use soil from site. Not deep enough to affect aeration. No ditching for curbing. Arborist to confirm this on site.

Tree Number	Name	Construction Activity	Impact	Mitigation Suggestion
12	QA	Building excavation to occur 19' from tree.	Roots may be severed in the process.	Manually dig all ditches within Critical Root Zone (CRZ). Arborist to be on hand.
13	QA	Subterranean parking excavation to occur 14' from tree.	Roots may be severed in the process.	Manually dig all ditches within Critical Root Zone (CRZ). Arborist to be on hand.
18	QA	Soil overfill to be up to 24" within CRZ. A ditch is to be dug for a retaining wall approx. 6' from tree. A building is to be demolished 16" from trunk.	Root aeration may be inhibited by deep overfill. Roots may be cut when ditch is dug. Demolition may affect this tree.	Soil to be roughened after lifting pavement; 3" of aggregate mix to be placed on grade for root aeration. Ditches to be dug manually. May have to bridge roots. Demo to be supervised by arborist.
23, 26	QA	House relocation with trenches dug within CRZ's.	Roots may be cut.	All ditches in trees' CRZ's to be dug by hand. May have to bridge roots.
27	QA	Soil filling in the area causing a large tree well to be formed.	Root drowning may occur in rainy season.	A 12" X 12" X 24" deep collection box connected to a drain pipe will be installed to prevent pooling.
31-37	Platanus racemosa (Western Sycamore)	A large vegetated swale filter to be installed near CRZ's	Possible root cutting may occur	Project arborist to be on hand to insure roots are not cut.

Even though root zones of many native trees will be encroached upon, I feel that the high vigor of the trees, due to the outstanding quality of the soil, will provide resistance to a moderate amount of root cutting. Project arborist supervision at critical points throughout the project will be of paramount importance.

Seven of the 35 mature native trees on the property are, according to the specifications of this proposal, being considered for removal. The suggested mitigation replacement number is ample (twenty two 24 inch boxed oak trees) and in sum, the project will contribute substantially to the continuity of the oak woodland community of the area.

Introduction

Background

The Cancer Center of Santa Barbara located at 540 West Pueblo Street, Santa Barbara, California is proposing to rebuild its present facility to better reflect the needs of the medical community. The Center is located in a residential area along the eastern side of lower Mission Creek. Many native Sycamore trees, *Platanus racemosa*, line the creek. These and a few older Coast Live Oak, *Quercus agrifolia*, and a California Bay tree, *Umbellularia californica*, represent a remnant community of native riparian and oak woodland trees. The Center is concerned about retaining as many of these as possible, preserving the woodland nature of the site during the construction phase, and supplementing the present grove with 22 more oaks. In addition, two mature non-native Torrey Pines will receive particular preservation attention.

Assignment

My assignment was to inventory all native trees on the property, review their health status, present strategies to ameliorate potential impact to their health from proposed construction, and propose mitigation measures for those trees that cannot be preserved. All non-native trees are to be included in a separate table. A tree preservation plan which applies to both the native and valued non-native trees is to be presented.

Proposed Site Changes

Included on the 3.2 acre property on which the present Cancer Center facility is located are residences similar to those of the parcels in the surrounding community. Native Oak and Bay trees have generally been preserved along old property lines and between buildings. The proposed re-configuration of the main facility, driveways, and parking areas in large part incorporates and highlights the trees. As many of the residence buildings will be preserved or rebuilt, space for the new central building facility is limited. In addition, the nursery school bordering the property on the southwest side has requested that the new building be pushed away from the property line. With all the above considerations in mind plus the need to move the building footprint to a higher elevation out of the flood plain, it is unavoidable that oak trees will be removed. Only one tree (# 21) is proposed for removal for the rebuilding of one of the small residential structures (Junipero St. end of the property). With project arborist supervision, the Sycamore trees lining Mission Creek will not be disturbed in any way for the project (a filtration swale proposed for an area northeast of these trees is studied below).

Evaluation of Potential Tree Impact

In addition to the re-location and enlargement of the main facility with its attendant foundation excavation work, oak tree roots may be impacted by grading, both filling and cutting for parking, water infiltration zones, driveways, and paths. The water infiltration zones "Rima" brand method of employing three layers of aggregate mixes of differing stone diameter and moderately compacting the subgrade. Some trees are located close to buildings proposed for demolition where special protection will be needed. Trenching for retaining walls for soil grade modification may result in the cutting of roots. Other potential impacts will be discussed. The Critical Root Zones (CRZ) for all trees is based on the tree's dripline plus 5'. (In cases of exaggerated canopy asymmetry, an average distance from the trunk center to dripline was taken).

North is "project plan" north, parallel to the City's main axis street, State St. (Please refer to the full site plan included).

A. Locations of potential impact from foundation excavation:

1. Oak trees # 1 (24" dripline), 2 (24" dripline) and a Bay tree, # 3 (20' dripline) at the southeastern corner.

Excavation will intrude 11' into partial sections of the CRZ of # 1, 13' into # 2, and 10' into # 3, the Bay tree.

2. Oak tree # 4, (24" dripline) at southeast end of building.

Excavation intrudes 5' into CRZ.

3. Oak tree # 12 (25' dripline) at the northwest corner of the building.

Excavation encroaches 5' into its CRZ.

B. Grading and retaining wall foundation impacts on native trees:

1. Oak trees # 10, 12, 13, and 14 as well as pine trees # 9 and 11 and will have up to 12" of soil laid over the present surface to allow for infiltration pavers, drainage sloping, and parking. The small curbing wall, 8" high, will be placed at the western parking edge to retain soil (no foundation excavation needed).

2. A large section of the root zone of oak tree # 18 will covered with 2' of fill soil. This will necessitate the installation of a 2' retaining wall 6' from its trunk (a foundation ditch will need to be dug).

3. Up to 18" of soil will be placed over a large part of the root zone of oak tree # 27 which will form a shallow depression centered on the trunk.

4. Permeable pavers are to be installed at grade over sections of the CRZ of oak trees # 28, 29, and 30. The base will need to be approximately 8" deep to support the pavers as a driveway.

C. Other potential tree impact considerations:

1. A vegetated swale filter 15' wide will be excavated in a large area to the northeast of the creek side group of mature Sycamore trees. As Sycamore tree roots run shallow, this will need study.
2. Three structures are slated for demolition and one for relocation which are close to native trees (Numbers 1, 4, 5, 18). A relocated building is to be placed within the CRZ of oak # 23 and 26).
3. A raised path will be installed in two locations as dictated by the American Disabilities Act (ADA) which will cross through the CRZ's of four native trees (trees # 1, 2, 3, and 4).
4. An irrigation system designed for the extensive landscaping that is occur will water plants within oak root zones and near trunk bases. Will this cause decline in a species which requires rainy season irrigation only?

Potential Tree Impact, Discussion and Recommendations

In my opinion, the soil of the property is as close to ideal as can be found. It was created by the deposition of creek alluvium over the centuries which has resulted in a deep, well drained, loamy soil. This and its nutrient rich nature contribute to excellent growing conditions which in turn allow for maximum vigor. I feel that the native trees here could sustain more root cutting in this environment than is encountered in the usual shallow, high clay content soils most commonly found in the Santa Barbara area.

In many cases where construction activity is to occur within native tree root zones, the oversight of the project arborist will be essential.

Wide areas of soil (some of which are over tree roots) are to be covered with permeable paving. These water infiltration zones, also used as parking areas and driveways are to employ the "Rima" brand method of using pavers separated by small aggregate and three layers of aggregate mixes for the base, and moderately compacting the sub-grade. In general, they provide good conditions for root aeration and irrigation.

The following addresses the types of potential tree impacts corresponding to the outline in the section above and presents recommendations:

A. Potential impacts from building and wall foundations.

All excavation for foundations within the CRZ of trees # 1, 2, 3, 4, and 12 is to be carried out manually using pick (not mattock) and shovel to a depth of 18" and overseen by the project arborist. All roots exposed are to be cut even on the tree side of the trench.

B. Potential impact from grading activity and retaining wall foundations.

1. While the existing thin paving over the roots of oak trees # 10, 12, and 14 and pine trees # 9 and 11 is carefully lifted, the excavator bucket should be employed to lightly roughen the soil to help prevent the formation of an interface. Oversight by the project arborist will be needed here as well as when the curbing wall is installed.
2. The same method of light surface soil scraping should occur within the CRZ of tree # 18 before overfilling here. Manual excavation for retaining wall foundation to be carried out within the tree's CRZ. Possible use of a grade beam on pylons to utilized here.
3. Oak tree # 27: a basin formed by soil filling on the west side will be drained by 12"x 12" two foot deep drain box which will effectively prevent root water logging in this tree.

C. Additional potential tree impact.

1. The vegetated swale to run parallel to the curve of the creek at the southwestern portion of the property will be shallow enough to prevent significant Sycamore roots cutting. The project arborist should be on hand to be sure specifications are accurately met.
2. House demolition and re-location: I noted that one unit at 529 Junipero St. was removed without harming nearby trees in 2008. The demolition service must be apprised of the sensitivity of working around oak trees at 520 and 524 Pueblo St. (oaks # 1, 4, and 5) and at 640 Junipero St. (tree # 18). Oaks # 23 and 26 may be affected by the placement of a relocated structure. Ditches for foundations are to be dug by hand through tree CRZ's). In all cases, the project arborist will need to be on hand to supervise.
3. Two ADA pathways proposed for the southeast portion of the property will be built on fill in both instances. I recommend that in the case of tree numbers 1-3 that the Rima brand of sub-base layering be extended into the CRZ's of these trees before filling. I suggest that a single layer of the aggregate mix cover the grade soil in the CRZ of tree # 4. The intent in both operations is to provide effective root aeration.
4. Irrigating landscape plants within native tree root zones: I recommend that spot emitters be used in all cases where landscaping is anticipated within the root zones of native trees, particularly oak trees. This will avoid the conditions for root rot, *Phytophthora cinnamomi*, and oak root fungus, *Armillaria mellea* which sprinkler irrigation potentially provides.

Mitigation Recommendations

A total of twenty two 24 inch boxed container size Coast Live Oak nursery specimens are proposed for planting in the new landscape offsetting the loss of seven oak trees having to be removed due to building placement. This is the maximum number of trees the area provides for on this site after relocating and rebuilding for the improved facility. I do not recommend planting larger sized planting stock (36" boxes and larger) as it has been proven that these are generally slower to establish and grow than are younger trees.

Conclusions

I have worked closely with Brian Cearnal and George Mansour of Cearnal Andrulaitis, Architecture along with Bob Cunningham and Martha Degasis of Arcadia Studio, and Jason Gotsis of Penfield and Smith over many months to arrive at what I consider a viable plan for the changes envisioned for the Cancer Center of Santa Barbara. It is my belief that the present concept sufficiently upgrades the facility to a new standard in the medical community while significantly contributing to the preservation of the native tree population of this important oak woodland, riparian community.

Tree Preservation Measures

Introduction

All construction activities, particularly soil excavation and grading within the root zones of trees, are to be overseen by myself, the project arborist. All parties involved in soil moving activities for the entire construction process are to meet with me at the outset to go over the of tree protection.

Preservation Directives

A. All native and non-native tree species to be preserved are to have protective fencing firmly installed at a minimum of 6' from tree trunks before demolition and construction activity is initiated. In cases where it is anticipated that tree trunks may be threatened with impact from construction machinery, it may be necessary to wrap them with heavy duty rug material.

B. All trenching (for wall foundations, utility lines, etc.) and post hole digging within root zones is to be executed manually only using pick and shovel, not mattock which tends to damage roots. All roots 3" and larger in diameter are to be preserved intact. Those roots that are severed are to be saw cut to allow for proper healing.

C. Access roads placed over root zones prior to hard surface and paver installation shall be covered with tree chips for the duration of the project to prevent soil compaction.

D. Spoils from plaster and concrete cleaning operations shall be restricted to one area far away from tree root zones. At the termination of activities, it shall be disposed of off site.

Appendix A

Inventory of Native Tree Species Inventory of Non-Native Species

Tree #	Name	Location	Size-Diameter at breast height (DBH) In inches	Health Level	Comments
1	Quercus agrifolia (QA)	N W side of 522 Pueblo St.	24	Good	To be preserved.
2	QA	Just NW of the above.	16 +12	Good	To be preserved.
3	Umbellularia californica (Bay tree)	"	14+16	Good	To be preserved.
4	QA	Between 524 and 526 Pueblo St.	24	Good	To be preserved.
5	QA	NW edge of 526 Pueblo St.	16	Good	To be preserved.
6	QA	Behind 526 Pueblo St.	26	Good	Proposed for removal.
7	QA	NW side 526 Pueblo St.	28	Good	Proposed for removal.
8	QA	NW corner of the present Cancer Center bldg.	19	Good	To preserved.
9	Pinus torreyana	NW of the above tree on the property line.	32	Good	To be preserved..
10	QA	"	15	Fair. In the shade of a Torrey pine.	To be preserved.
11	Pinus torreyana	"	48	Good	To be preserved. No grading into root system will occur.
12	QA	One of five specimens in a line NW of the Center.	30	Good	To be preserved
13	QA	"	18	Good	To be removed
14	QA	"	15+11+14	Good	To be preserved
15	QA	"	6 ½ 6 ½ 4	Good	Proposed for removal.

Tree #	Name	Location	Size-DBH In inches	Health Level	Comments
16	QA	Last tree in the line	12	Good	To be removed.
17	QA	East of the above line of trees.	24	Good	Proposed for removal.
18	QA	On the property line between 601 and 605 Junipero St.	16 ½	Good	To be preserved.
19	QA	On the property line west of 601 Junipero	24	Good	To be preserved
20	QA	"	9	Good	To be preserved.
21	QA	SW corner of 601	14	Good	To be preserved.
22	QA	East side of 529 Junipero St.	12	Good	Proposed for removal.
23	QA	East side of 523 Junipero St.	24	Good	To be preserved.
24	QA	First in a row along NE side of driveway to 519 Junipero St.	14	Good	To be preserved.
25	QA	Second tree.	16	Good	To be preserved.
26	QA	Third tree.	16	Good	To be preserved.
27	QA	NE side of property. Mid section	33	Good	To be preserved in new parking area.
28	QA	"	21 ½	Good	To be preserved in new parking area.
29	QA	"	20	Good	To be preserved in new parking area.
30	QA	"	22 ½	Good	To be preserved in new parking area.
31	Platanus racemosa (PR) (Sycamore)	First in row (northwestern most of trees lining Mission Creek) Direction is toward Pueblo St.	38	Good	Main issue is stability along the creek edge. All trees appear to be stable at this time.
32	PR	A group, second in row.	20, 20, 26, 20	Good	
33	PR	A group of two, next	38,16	Fair-Good. Some basal decay.	
34	PR	Next in the line.	19	Good	
35	PR	Group of two.	30, 29	Good	
36	PR	Group of three	26,18,23 ½	Good	
37	PR	Group of three. Closest to Pueblo St.	31, 30, 22	Good	

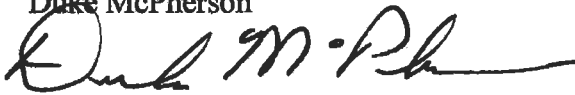
Name	Location	Trunk diameter in "	Health Level	Comments
Torrey Pine	West property line	32	Good	To be preserved.
Torrey Pine	West property line	48	Good	To be preserved.
Rusty Leaf Fig	Pueblo St. side of present main building	25	Good	To be preserved.
Podocarpus gracilior	On western property line edging main building patio.	14	Good	To be removed.
Podocarpus gracilior	Paired with the above tree.	10	Good	To be preserved.
Magnolia	West of main building.	8	Poor	To be removed for main building modification.
Jacaranda	On western property line edging main building patio.	12, 10 ½	Fair. Decay at base. Poor trunk attachment.	To be preserved. Should be cabled together.
8 King palms	In patio areas and internal courtyard of the main building.	11, 12, 12, 11, 10, 10, 10, 12	Good	To be removed.
3 Queen Palms	Adjacent to Fig tree at Pueblo St. side of main building.	11, 12, 15	Good	To be removed.
Two Avocado trees	Back yard of 888 Junipero St.	12+ 12	Fair	To be removed.
Pecan tree	Back yard of 886 Junipero St.	14	Good	To be removed.
Chinese Elm	Back yard of 886 Junipero St.	24	Good	To be preserved.
Tree Cactus	Front yard of 890 Junipero St.	25	Fair	Tree was moved off site.
8 Podocarpus	Row of trees eastern property line near Oak # 28.	7,7,9,11,11, 14,14,15	Good	To be removed and replaced with Oak trees.
Pittosporum undulatum	At the south west corner of main building at edge of creek.	19	Fair.	To be preserved.
Evergreen Pear	In front yard of 601 Junipero St.	9	Good	To be preserved.
Evergreen Pear	Paired with the above tree.	7	Good	To be preserved.

References

Health ratings for both native and non-native tree species taken from **Trees and Development: A Technical Guide to Preservation of Trees During Land Development** by Nelda Matheny and James R. Clark, published by the International Society of Arboriculture, 1998.

Tree identification was confirmed using **Trees of Santa Barbara** by Robert Muller and Robert Haller, published by the Santa Barbara Botanic Garden, 2005.

Report prepared by
Duke McPherson

A handwritten signature in black ink, appearing to read "Duke McPherson", with a long horizontal flourish extending to the right.

Certified Arborist with the
International Society of Arboriculture
Certification # WE-0690A

Member of the
American Society of
Consulting Arborists
Membership # 1113

Key to Colors on Tree Plan

Circle depicting planting location of new oak trees:



Critical Root Zone perimeter of existing Oaks and one Bay tree:



Building foundation and retaining wall lines within Critical Root Zones:



Building foundation lines where demolition or whole building removal is to occur:



Paver installation over root zones:



ADA pathways over root zones:



"X" denoting non-native tree removal:



"X" denoting oak tree removal:



**Tree Protection Plan Addendum
Cancer Center of Santa Barbara**

Submitted to:

Brad Hess

Assistant Administrator

Cancer Center of Santa Barbara

540 West Pueblo Street

Santa Barbara, California 93105

Prepared by:

Duke McPherson, Arborist

201 East Mountain Drive

Santa Barbara, California 93108

August 17, 2009

Duke McPherson, Arborist

201 East Mountain Drive
Santa Barbara, CA 93108
Phone 805 969-4676
E-mail: treemanduke@cox.net

August 17, 2009

Brad Hess
Administrative Assistant
Cancer Center of Santa Barbara
540 West Pueblo Street
Santa Barbara, CA 93105

Arborist Report Addendum

Introduction

This report is an addendum to a Tree Protection Plan I wrote on March 30, 2009 which dealt with tree protection issues anticipated with the extensive modification of the Cancer Center of Santa Barbara's present facility. I am responding in the present report to the City of Santa Barbara Planning Division's Development Application Review Team Comments of May 20, 2009 regarding the Tree Protection Plan details.

Included in this addendum is a revised table of non-native trees. Note that two *Podocarpus gracilior* trees located near the western property line edging the main building patio are to be removed and a mature street tree *Ulmus parvifolia*, is to be removed and replaced with a *Quercus agrifolia*. This brings the mitigation replacement planting for Coast Live Oaks to twenty two 24 inch boxed trees. Refer to the accompanying plan for details.

Non-Native Tree Preservation during Construction

The non-native trees needing special consideration for protection are two Torrey Pines, *Pinus torreyana* and a Chinese Elm, *Ulmus parvifolia* as construction work will be occurring well within their protected root zones. Refer to specific measures for protection in the non-native tree table on the following page. Included in this report on page 3 is a list of Tree Protection Measures to be taken during the construction phase.

In the case of any non-native tree where there are negative health affects or it succumbs as the result of construction activity, a substitute of the same species of the largest practicable size shall be planted in its place. All trees are to be monitored by the project arborist for a period of two years after the start of construction activity.

Non-Native Tree Inventory

Name	Location	Size DBH in	Health Level	Comments
Torrey Pine	West property line	32	Good	To be preserved. Some soil filling to occur. Roughen grade soil prior to filling. Use topsoil from site. No ditching for parking curbing.
Torrey Pine	West property line	48	Good	To be preserved. Some soil filling to occur. Roughen grade soil prior to filling. Use topsoil from site. No ditching for parking curbing.
Rusty Leaf Fig	Pueblo St. side of present main building	25	Good	To be preserved.
Podocarpus gracilior	On western property line edging main building patio.	14	Good	To be preserved.
Podocarpus gracilior	Paired with the above tree.	13	Good	To be preserved.
Magnolia	West of main building.	8	Poor	To be removed for main building modification.
Jacaranda	On western property line edging main building patio.	12, 10 ½	Fair. Decay at base. Poor trunk attachment.	To be preserved. Should be cabled together.
8 King palms	In patio areas and internal courtyard of the main building.	11, 12, 12, 11, 10, 10, 10, 12	Good	All to be removed.
3 Queen Palms	Adjacent to Fig tree at Pueblo St. side of main building.	11, 12, 15	Good	To be removed.
Two Avocado trees	Back yard of 525 W. Junipero St.	12+ 12	Fair	To be removed.
Pistache tree	Back yard of 529 W. Junipero St.	14	Good	To be removed.
Chinese Elm	Back yard of 529 W. Junipero St.	24	Good	To be preserved. Excavation to occur 7' to the east, 6' to the west. The project arborist is to be on hand to properly cut roots. Tree to be put under observation for 2 years to check health.
Tree Cactus	Front yard of 519 W. Junipero St.	25	Fair	Was transplanted to an off site location.
8 Podocarpus	Row of trees eastern property line near Oak # 28.	7,7,9,11,11, 14,14,15	Good	To be removed. Area to be planted with Oak trees.
Pittosporum undulatum	At the south west corner of main building at edge of creek.	19	Fair. Grows in the shade of Sycamores.	To be preserved.
Evergreen Pear	In front yard of 601 Junipero St.	9	Good	To be preserved.
Evergreen Pear	Paired with the above tree.	7	Good	To be preserved.

Tree Preservation Measures

Introduction

All construction activities, particularly soil excavation and grading within the root zones of trees, are to be overseen by myself, the project arborist.

Preservation Directives

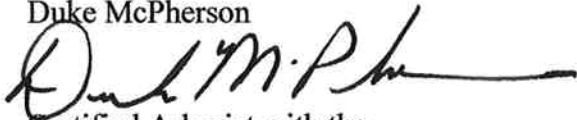
A. All native and non-native tree species to be preserved are to have protective fencing firmly installed at a minimum of 6' from tree trunks before demolition and construction activity is initiated. In cases where it is anticipated that tree trunks may be threatened with impact from construction machinery, it may be necessary to wrap them with heavy duty rug material.

B. All trenching (for wall foundations, utility lines, etc.) and post hole digging within root zones is to be carried out manually only. All roots over 2" in diameter are to be preserved intact where possible. Those roots that are severed are to be saw cut even to allow for proper healing.

C. Access roads placed over root zones shall be covered with a 3" layer of tree chips for the duration of the project to prevent soil compaction.

D. Spoils from plaster and concrete cleaning operations shall be restricted to one area far away from tree root zones in a plastic lined pit. At the termination of activities, it shall be disposed of off site.

Report prepared by
Duke McPherson

A handwritten signature in black ink, appearing to read 'Duke McPherson', with a long horizontal flourish extending to the right.

Certified Arborist with the
International Society of Arboriculture
Certification # WE-0690A

Member of the
American Society of
Consulting Arborists
Membership # 1113

Key to Colors on Tree Plan

Circle depicting planting location of new oak trees: 

Critical Root Zone perimeter of existing Oaks and one Bay tree: 

Building foundation and retaining wall lines within Critical Root Zones: 

Building foundation lines where demolition or whole building removal is to occur: 

Paver and ADA pathway installation over root zones: 

"X" denoting non-native tree removal: 

"X" denoting oak tree removal: 

LANDSCAPE DESIGN INTENT

In developing the landscape design concept for Cancer Center of Santa Barbara, certain elements were identified as significant. These are reflected in the conceptual design, and include:

1. Preserve and protect the existing Coast Live Oak, Torrey Pine, and various ornamental trees to the greatest extent possible.
2. Provide a distinctive street tree planting of native Coast Live Oak on Pueblo Street and Junipero Street.
3. Provide clearly delineated walking paths between Junipero and Pueblo Streets, and from parking areas to the buildings.
4. Create a serene and varied garden experience between the building and the creek. Provide accessible private sitting areas for meditation, infusion, and relaxation. Create a open and accessible patio for group gatherings in the center of the garden. Provide a central lawn area to be used for Yoga, Tai-chi and other exercise programs.
5. Mask sounds coming from the freeway with splashing water features and shrub barriers. Create a garden experience that celebrates the changing of the seasons with colorful fall foliage, spring-blooming bulbs, butterfly and hummingbird-attracting plants.
6. Use plant materials for environmental modification to shade parking areas and to allow solar access where appropriate.
7. Select plants that are adapted to the Mediterranean climate and that will survive with minimal watering after they are established. Emphasize the use of native trees and shrubs.
8. Specify non-invasive plant material that will not compromise the existing plant species around the adjacent creek.
9. Plant roof surfaces to insulate the buildings, increase green open space, and reduce glare.
10. Screen the parking garage with narrow trees and vines trained on trellis structures.

CONCEPTUAL PLANT PALETTE

Botanic Name Common Name

TREES / PALMS:
Acer macrophyllum Maple
Acer palmatum Japanese Maple
Cassia splendens Butterfly Tree
Cercis occidentalis Western Redbud
Heteromeles arbutifolia Toyon
Hymenosporum flavum Sweetshade
Lyonothamnus floribundus Catalina Ironwood
Quercus agrifolia Coast Live Oak
Ginkgo biloba Maidenhair Tree

SHRUBS:
Agave attenuata Lily of the Nile
Agave attenuata Velvet Agave
Arctostaphylos 'Howard McMinn' McMinn Manzanita
Arbutus unedo Strawberry Tree
Callistemon 'Little John' Dwarf Bottlebrush
Carpenteria californica Bush Anemone
Ceanothus griseus horizontalis Prostrate California Lilac
Cornus stolonifera Creek Dogwood
Dendromecon harfordii Island Bush Poppy
Fremontodendron 'Ken Taylor' Flannel Bush
Garrya elliptica 'James Roof' Coast Silk Tassel
Lagerstroemia 'Alcoma' Weeping Crape Myrtle
Mahonia repens Prostrate Barberry
Pittosporum tobira 'Variegata' Mop Orange
Rhamnus 'Mound San Bruno' Dwarf Coffeeberry
Ribes sanguineum glutinosum Pink Flowering Currant
Ribes viburnifolium Catalina Perfume
Romneya coulteri Matilija Poppy
Rhus integrifolia Lemonadeberry
Strelitzia reginae Bird of Paradise

PERENNIAL ACCENTS:
Aconitum 'Mint Sauter' Dinnerplate Aconitum
Bergenia cordifolia Heartleaf Bergenia
Civita miniata Kaffir Lily
Erigeron glaucus 'Bountiful' Seaside Daisy
Hemerocallis hybrids Daylily
Heuchera 'Santa Ana Cardinal' Coral Bells
Iris douglasiana Canyon Iris
Lilippe gigantea Giant Turf Lily
Penstemon heterophyllus Penstemon 'Margarita BOP'
Salvia clevelandii Cleveland Sage
Salvia greggii Autumn Sage
Salvia leucantha Mexican Bush Sage
Sisyrinchium 'Rocky Point' Blue Eyed Grass

ESPALEERS:
Calliandra haematocephala Pink Powder Puff
Felicia sellowiana Pineapple Guava
Fremontodendron californica Flannel Bush

VINES:
Bougainvillea sp. Bougainvillea
Clematis x caroliniana 'Avalanche' Evergreen Clematis
Distictis 'Rivers' Royal Trumpet Vine
Distictis buccinatoria Red Trumpet Vine
Parthenocissus 'Hacienda Creeper' Rancho Viejo Creeper
Vitis californica Native Grape

BULBS:
Pheasantia hybrids Pheasantia
Narcissus Narcissus
Beladonna amaryllis Naked Ladies
Zephyranthes candida Rain Lily
Sparaxis species Harlequin Lily

GROUNDCOVERS:
Arctostaphylos 'Emerald Carpet' Prostrate Manzanita
Asteria navilina Sea Thrift
Carissa 'Emerald Carpet' Prostrate Natal Plum
Fragaria chiloensis Wild Strawberry
Lesingia flaginifolia 'Silver Carpet' Silver Carpet California Aster
Pelargonium peltatum Ivy Geranium

GREEN ROOF PLANTING:
Achillea millefolium Yarrow
Sedum reflexum Sedum
Fragaria chiloensis Wild Strawberry
Lesingia flaginifolia 'Silver Carpet' Silver Carpet California Aster

NOTE:

The irrigation system for any grass areas will be a low precipitation rotor heads. A drip irrigation system will be utilized for the majority of the shrub/groundcover areas. Recycled water from City of Santa Barbara recycled water main will be used to irrigate the landscape. A "Smart" technology controller will be used. All trees will be 15 gallon minimum size.

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected

EXISTING TREES TO BE PROTECTED
Ficus rubiginosa / Rusty leaf Fig

PERMEABLE PAVING ON
PERFORATED SLAB IN
DRIVEWAY TO TRASH ENCLOSURE
AND PARKING STRUCTURE

PERMEABLE PAVING ON DRIVEWAY
AND SURFACE PARKING AREAS

ORNAMENTAL IRON FENCING
TO ENCLOSE GARDEN AREA

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Views between preschool and garden
to be preserved

EXISTING TREES TO BE
PROTECTED
Platanus racemosa /
California Sycamore

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected

EXISTING TREES TO BE PROTECTED
Ficus rubiginosa / Rusty leaf Fig

EXISTING STREET TREE
TO BE PROTECTED
Jacaranda mimosifolia / Jacaranda

EXISTING TREES TO BE PROTECTED
Pyrus kawakamii / Evergreen Pear

PERMEABLE PAVING ON
PERFORATED SLAB IN
DRIVEWAY TO TRASH ENCLOSURE
AND PARKING STRUCTURE

PERMEABLE PAVING ON DRIVEWAY
AND SURFACE PARKING AREAS

ORNAMENTAL IRON FENCING
TO ENCLOSE GARDEN AREA

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Views between preschool and garden
to be preserved

EXISTING TREES TO BE
PROTECTED
Platanus racemosa /
California Sycamore

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected

EXISTING TREES TO BE PROTECTED
Ficus rubiginosa / Rusty leaf Fig

EXISTING STREET TREE
TO BE PROTECTED
Jacaranda mimosifolia / Jacaranda

EXISTING TREES TO BE PROTECTED
Pyrus kawakamii / Evergreen Pear

PERMEABLE PAVING ON
PERFORATED SLAB IN
DRIVEWAY TO TRASH ENCLOSURE
AND PARKING STRUCTURE

PERMEABLE PAVING ON DRIVEWAY
AND SURFACE PARKING AREAS

ORNAMENTAL IRON FENCING
TO ENCLOSE GARDEN AREA

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Views between preschool and garden
to be preserved

EXISTING TREES TO BE
PROTECTED
Platanus racemosa /
California Sycamore

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected

EXISTING TREES TO BE PROTECTED
Ficus rubiginosa / Rusty leaf Fig

EXISTING STREET TREE
TO BE PROTECTED
Jacaranda mimosifolia / Jacaranda

EXISTING TREES TO BE PROTECTED
Pyrus kawakamii / Evergreen Pear

PERMEABLE PAVING ON
PERFORATED SLAB IN
DRIVEWAY TO TRASH ENCLOSURE
AND PARKING STRUCTURE

PERMEABLE PAVING ON DRIVEWAY
AND SURFACE PARKING AREAS

ORNAMENTAL IRON FENCING
TO ENCLOSE GARDEN AREA

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Views between preschool and garden
to be preserved

EXISTING TREES TO BE
PROTECTED
Platanus racemosa /
California Sycamore

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected

EXISTING TREES TO BE PROTECTED
Ficus rubiginosa / Rusty leaf Fig

EXISTING STREET TREE
TO BE PROTECTED
Jacaranda mimosifolia / Jacaranda

EXISTING TREES TO BE PROTECTED
Pyrus kawakamii / Evergreen Pear

PERMEABLE PAVING ON
PERFORATED SLAB IN
DRIVEWAY TO TRASH ENCLOSURE
AND PARKING STRUCTURE

PERMEABLE PAVING ON DRIVEWAY
AND SURFACE PARKING AREAS

ORNAMENTAL IRON FENCING
TO ENCLOSE GARDEN AREA

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Views between preschool and garden
to be preserved

EXISTING TREES TO BE
PROTECTED
Platanus racemosa /
California Sycamore

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected

EXISTING TREES TO BE PROTECTED
Ficus rubiginosa / Rusty leaf Fig

EXISTING STREET TREE
TO BE PROTECTED
Jacaranda mimosifolia / Jacaranda

EXISTING TREES TO BE PROTECTED
Pyrus kawakamii / Evergreen Pear

PERMEABLE PAVING ON
PERFORATED SLAB IN
DRIVEWAY TO TRASH ENCLOSURE
AND PARKING STRUCTURE

PERMEABLE PAVING ON DRIVEWAY
AND SURFACE PARKING AREAS

ORNAMENTAL IRON FENCING
TO ENCLOSE GARDEN AREA

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Views between preschool and garden
to be preserved

EXISTING TREES TO BE
PROTECTED
Platanus racemosa /
California Sycamore

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected

EXISTING TREES TO BE PROTECTED
Ficus rubiginosa / Rusty leaf Fig

EXISTING STREET TREE
TO BE PROTECTED
Jacaranda mimosifolia / Jacaranda

EXISTING TREES TO BE PROTECTED
Pyrus kawakamii / Evergreen Pear

PERMEABLE PAVING ON
PERFORATED SLAB IN
DRIVEWAY TO TRASH ENCLOSURE
AND PARKING STRUCTURE

PERMEABLE PAVING ON DRIVEWAY
AND SURFACE PARKING AREAS

ORNAMENTAL IRON FENCING
TO ENCLOSE GARDEN AREA

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Views between preschool and garden
to be preserved

EXISTING TREES TO BE
PROTECTED
Platanus racemosa /
California Sycamore

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected

EXISTING TREES TO BE PROTECTED
Ficus rubiginosa / Rusty leaf Fig

EXISTING STREET TREE
TO BE PROTECTED
Jacaranda mimosifolia / Jacaranda

EXISTING TREES TO BE PROTECTED
Pyrus kawakamii / Evergreen Pear

PERMEABLE PAVING ON
PERFORATED SLAB IN
DRIVEWAY TO TRASH ENCLOSURE
AND PARKING STRUCTURE

PERMEABLE PAVING ON DRIVEWAY
AND SURFACE PARKING AREAS

ORNAMENTAL IRON FENCING
TO ENCLOSE GARDEN AREA

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Views between preschool and garden
to be preserved

EXISTING TREES TO BE
PROTECTED
Platanus racemosa /
California Sycamore

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected

EXISTING TREES TO BE PROTECTED
Ficus rubiginosa / Rusty leaf Fig

EXISTING STREET TREE
TO BE PROTECTED
Jacaranda mimosifolia / Jacaranda

EXISTING TREES TO BE PROTECTED
Pyrus kawakamii / Evergreen Pear

PERMEABLE PAVING ON
PERFORATED SLAB IN
DRIVEWAY TO TRASH ENCLOSURE
AND PARKING STRUCTURE

PERMEABLE PAVING ON DRIVEWAY
AND SURFACE PARKING AREAS

ORNAMENTAL IRON FENCING
TO ENCLOSE GARDEN AREA

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Views between preschool and garden
to be preserved

EXISTING TREES TO BE
PROTECTED
Platanus racemosa /
California Sycamore

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected

EXISTING TREES TO BE PROTECTED
Ficus rubiginosa / Rusty leaf Fig

EXISTING STREET TREE
TO BE PROTECTED
Jacaranda mimosifolia / Jacaranda

EXISTING TREES TO BE PROTECTED
Pyrus kawakamii / Evergreen Pear

PERMEABLE PAVING ON
PERFORATED SLAB IN
DRIVEWAY TO TRASH ENCLOSURE
AND PARKING STRUCTURE

PERMEABLE PAVING ON DRIVEWAY
AND SURFACE PARKING AREAS

ORNAMENTAL IRON FENCING
TO ENCLOSE GARDEN AREA

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Views between preschool and garden
to be preserved

EXISTING TREES TO BE
PROTECTED
Platanus racemosa /
California Sycamore

BRIDGES OVER DRY CREEK BED
Trex lumber or stone slabs

25' CREEK SETBACK
All planting in creek setback area
per Creek Restoration
Revegetation Plan by Dudek, February 2009

NATIVE CANOPY TREE
Acer macrophyllum / Bigleaf Maple

PRIVATE PATIOS FOR PATIENT OR STAFF USE
Pavers and moveable wood chairs, small table

SMALL SCALE NATIVE TREE
Cercis occidentalis / Western Redbud

PERMEABLE PAVING IN SETBACK
Stabilized decomposed granite

LARGE PATIO FOR GROUP USE
Concrete paving and wood benches

SANDSTONE AND COBBLE DRY CREEK BED WITH
NATIVE GRASSES AS BIOSWALE
Recycled lumber bridges where path crosses dry creek

EXISTING WALL TO BE
PROTECTED. ORNAMENTAL
IRON FENCING TO BE REPLACED.
Native shrubbery to be added for sound attenuation

TOP OF BANK
Existing wall to be protected